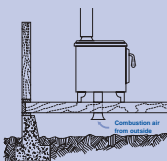
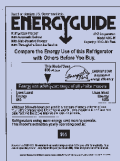
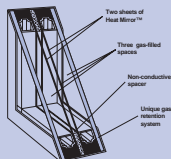
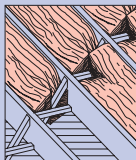
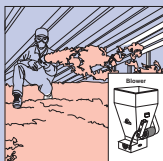
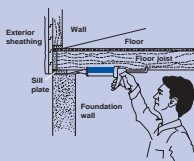
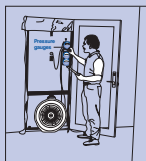


The Virginia Energy Savers Handbook

A Guide to Saving Energy, Money, and the Environment



THE VIRGINIA ENERGY SAVERS HANDBOOK

A Guide to Saving
Energy, Money,
and the Environment

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WHY AND HOW TO BECOME A SMART ENERGY CONSUMER

We are all energy consumers. Regardless of our types of home or car, we all require energy to conduct our daily lives. Over 90% of the energy we use today comes from the burning of fossil fuels – coal, oil, and natural gas. Fossil fuels are not renewable and their supply is limited, so common sense dictates that we use these resources efficiently. Together, Virginians consume the equivalent of over 650 million barrels of oil per year. We spend over \$16 billion per year on energy, and much of that money ends up outside our state.

Energy prices are historically very unpredictable. Home heating oil, propane, and natural gas prices have risen dramatically over the past few years. We should prepare for the future by using energy efficiently and wisely. This will protect us financially against rising energy prices.

Energy efficiency not only saves each of us money by reducing utility costs, it benefits our national security and economy by cutting down our dependence on foreign oil. The United States imports more than 50% of its oil, up from 34% in 1973. With our volatile relationships with many energy-exporting countries, energy security is directly related to national security. It is therefore every consumer's responsibility to exercise personal leadership by practicing conservation and efficiency on a daily basis. It is up to each one of us.

Energy efficiency also benefits our natural environment by reducing emissions of sulfur dioxide, nitric oxide, carbon monoxide, carbon dioxide, and other air pollutants. These pollutants contribute to global warming, can cause respiratory diseases, and harm plants and wildlife. Every kilowatt-hour of electricity use (equivalent to a 100-watt light bulb burning for 10 hours) results in over two pounds of carbon dioxide being emitted into the atmosphere, with proportional amounts of other pollutants. By conserving energy, consumers can significantly improve the world in which we all live.

This *Virginia Energy Savers Handbook* is your guide to improving the efficiency with which you use energy in your day-to-day life. It will show you how to

identify those areas that can be improved, how to go about improving them, and where to go for further information.

Energy saving starts at home. The *Handbook* begins (Chapter 1) with a simple home assessment or "energy audit" and proceeds to specific recommendations for improving your home's energy efficiency by controlling air leakage (Chapter 2), adding insulation (Chapter 3), upgrading your windows and doors (Chapter 4), improving your heating and cooling systems (Chapter 5), and improving your water heater (Chapter 6). It explains how to shop for and maintain energy-efficient appliances (Chapter 7) and lighting (Chapter 8). Energy efficient new construction is discussed (Chapter 10) and information is provided on alternative and renewable energy (Chapter 12).

Since all water we use must be pumped and much of it must be heated, saving water also saves energy. In recent years, Virginians have become aware that water itself is a precious resource. Water conservation is discussed in Chapter 9.

Next to your home, the largest energy consumer you own is your car. Chapter 11 includes a discussion of automobile fuel economy, some pointers on operating and maintaining your car for maximum fuel economy, and information on high efficiency alternative fuel vehicles.

As Virginia moves into a deregulated utility environment, we must carefully examine how we purchase our energy. Chapter 13 discusses Virginia Energy Choice. Chapter 14 concludes with a discussion on how the environment is impacted by energy production and use.

Each chapter in the *Handbook* ends with a summary of important energy tips and recommendations. An Appendix provides a listing of state and national resources for more information on energy and environmental issues.

It is our hope that the *Virginia Energy Savers Handbook* will serve as a valuable guide in helping all Virginians save energy, money, and the environment.